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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,638	08/19/2005	Palani Balaya	MFA-18802/04	9536

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EXAMINER	
LEWIS, BEN	

ART UNIT	PAPER NUMBER
1795	

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10/04/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/527,638	BALAYA ET AL.	
	Examiner	Art Unit	
	Ben Lewis	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,5-10 and 12-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,5-10 and 12-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/14/10*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Detailed Action

1. The Applicant's amendment filed on July 20th, 2010 was received. Claims 3 and 6-10 were amended. Claims 12-14 were added.

2. The text of those sections of Title 35, U.S.C. code not included in this action can be found in the prior Office Action (issued on January 20th, 2010).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 6 recites the limitation "M is at least one of ruthenium and molybdenum". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 6, 8 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Obrovac et al. (U.S. Patent No. 6,680,145 B2).

With respect to claims 6, 8 and 13, Obrovac et al. disclose lithium ion batteries (tile). Obrovac et al. teach that the invention also features a process for preparing a lithium-ion battery that includes (a) preparing a cathode comprising particles that include (i) transition metal grains having a grain size no greater than about 50 nanometers, and (ii) lithium-containing grains selected from the group consisting of lithium oxides, lithium sulfides, lithium halides, and combinations thereof; and (b) combining the cathode with an electrolyte and an anode to form the battery (Col 1 lines 50-65). Obrovac et al. teach that transition metals suitable for the transition metal grains include molybdenum.

Obrovac et al. disclose a Li_2O/Co composite (Col 2 lines 15-35).

Obrovac et al. teach an electrolyte , anode and cathode, lithium electrolyte salt (Col 3 lines 20-36). (Although Obrovac et al. is silent to non-aqueous solvent, Examiner notes that it is well known in the battery art that lithium ion batteries utilize non-aqueous, anhydrous solvents).

Regarding claim 14, it has been held that the recitation that an element is "adapted to" perform or is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. The recitation of a new intended use (i.e. a lithium based storage device use as a supercapacitor) for an old product does

not make a claim to that old product patentable, see In re *Schreiber,* 44 USPQ2d 1429 (Fed. Cir. 1997).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barker et al. (U.S. Pub. No. 2004/0214084 A1) in view of Yoshizawa et al. (U.S. Pub. No. 2002/0192551 A1).

With respect to claims 7 and 9, Barker et al. disclose synthesis of metal compounds under carbothermal conditions (title), wherein the products of the method find use in lithium ion batteries as cathode active materials. Preferred active materials include lithium-transition metal phosphates and lithium-transition metal oxides (Paragraph 0010)

With respect to an LiX-M amorphous composite or nano-composite, Barker et al. teach that Phosphate active materials or active materials where other anions may

completely or partially replace phosphate may be represented by the general formula: $A_aM_b(XY_4)_cZ_d$, (Paragraph 0024).

(a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, and 0<a<=8;

(b) M comprises one or more metals, comprising at least one metal which is capable of undergoing oxidation to a higher valence state, and 1<=b<=3;

(c) 0<c<=3;

(d) Z is OH, halogen, or mixtures thereof, and 0<=d<=6; and wherein M, X, Y, Z, a, b, c, d, x and y are selected so as to maintain electroneutrality of the compound (Paragraph 0024 – 0030)

(Examiner notes that when A= Li and c=0 the formula of Barker et al. reads on Applicants formula of LiX-M).

Barker et al. also teach that in a preferred embodiment, M comprises two or more transition metals from Groups 4 to 11 of the Periodic Table. In another preferred embodiment, M comprises M'M", where M' comprises at least one transition metal from Groups 4 to 11 of the Periodic Table; and M" at least one element from Groups 2, 3, 12, 13, or 14 of the Periodic Table. Preferred embodiments include those where c=1, those where c=2, and those where c=3. Preferred embodiments include those where a

1 and c=1, those where a=2 and c=1, and those where a 3 and c=3. Preferred embodiments also include those having a structure similar to the mineral olivine (herein "olivines"), and those having a structure similar to NASICON (NA Super Ionic Conductor) materials (herein "NASICONs") (Paragraph 0031).

Barker et al. teach that transition metals useful herein include those selected from the group consisting of Ti (Titanium), V (Vanadium), Cr (Chromium), Mn (Manganese), Fe (Iron), Co (Cobalt), Ni (Nickel), Cu (Copper), Zr (Zirconium), Nb (Niobium), Mo (Molybdenum), Ru (Ruthenium), Rh (Rhodium), Pd (Palladium), Ag (Silver), Cd (Cadmium), Hf (Hafnium), Ta (Tantalum), W (Tungsten), Re (Rhenium), Os (Osmium), Ir (Iridium), Pt (Platinum), Au (Gold), Hg (Mercury), and mixtures thereof (Paragraph 0039).

With respect to X being fluorine, Barker et al. teach that Z is OH, halogen, or mixtures thereof. In one embodiment, "d" is equal to zero. In another preferred embodiment, d is non-zero and Z is selected from the group consisting of OH (hydroxyl), F (fluorine), Cl (chlorine), Br (bromine) and mixtures thereof. In a preferred embodiment, Z is OH. In another preferred embodiment, Z is F, or mixtures of F with OH, Cl, or Br. Preferably "d" is from about 0.1 to about 6, more preferably from about 0.2 to about 6. Where c=1, d is preferably from about 0.1 to about 3 (Paragraph 0044).

Barker et al. teach that XY_4 is selected from the group consisting of $X'O_{4-x}Y'_x$, $X'O_{4-y}Y'_{2y}$, $X''S_4$, and mixtures thereof, where X' is P (phosphorus), As (arsenic), Sb (antimony), Si (silicon), Ge (germanium), S (sulfur), and mixtures thereof; X" is P, As, Sb, Si, Ge and mixtures thereof. In a preferred embodiment, X' and X" are,

respectively, selected from the group consisting of P, Si, and mixtures thereof. In a particularly preferred embodiment, X' and X" are P. Y' is halogen, preferably F (fluorine). Preferred groups XY_4 include, without limitation, phosphate, silicate, sulfate, germanate, arsenate, antimonate, monofluoromonophosphate, difluoromonophosphate, and mixtures of the above, as well as the sulfur-containing analogs of the above (Paragraph 0042). (Examiner notes that when X and M are the same transition metal and Y and Z are both Fluorine then the formula of the prior art will read of the formula as claimed by Applicant).

With respect to the transition metal being metal clusters Barker et al. teach that the presence of carbon particles in the starting materials is thought to provide nucleation sites for the production of the product crystals. The reaction product is believed to be comprised of small grains or crystals nucleated onto carbon particles. The individual grains are agglomerated (clusters). This provides many advantages, including the enhanced conductivity of the product (Paragraph 0067).

With respect to conductive additive, Barker et al. teach the use of graphite and carbon black and metal particles (Paragraph 0131-0132).

With respect to binders, Barker et al. teach the use of PVDF (Paragraph 0132). Barker et al. also teach that in another aspect, reaction of a metal compound and a source of carbon is carried out without simultaneous reduction of a metal. In this aspect, the metal compounds are provided in an oxidation state equal to their oxidation state in the desired product. Whether or not reaction proceeds with carbothermal reduction, the carbon particles preferably provide nucleation sites for the crystals of the

reaction product. The crystals or grains thus produced are preferably smaller than they would be in the absence of the carbon. The smaller grain size preferably leads to more intimate packing of the crystals forming a high quality active material. Preferably, carbon particles are also dispersed throughout the reaction product, leading to a product with good conductivity between grains. This is believed to contribute to the high quality of the active material made under carbothermal conditions (Paragraph 0020).

Barker et al. disclose lithium batteries having positive and negative electrodes and electrolyte (Paragraph 0002). Barker et al. teach that the polymer electrolyte matrix comprises a salt typically organic and a solvent. The solvent relatively non-volative, aprotic, relatively polar solvent (Paragraph 0152).

Barker et al. do not specifically teach a nano composite. However, Yoshizawa et al. disclose a nonaqueious electrolyte battery wherein, by using the iron compound of which primary particles is substantially a pore-free matter in nano particle region, occlusion and release of lithium in the 4 V region, which were hitherto difficult, are easy, and a stable charging or discharging is possible. When particles are in nano particle region, the number of constituent atoms in particle is extremely small, and band structure is hardly formed, so that the energy level of electrons becomes discrete. As a result, electrons can be given and taken relatively easily, so that occlusion and release of lithium ions seem to be improved (Paragraph 0017). Therefore it would have been obvious to one of ordinary skill in the art to use the nano particle size of Yoshizawa et al. as the size of the electrode active material of Barker et al. because Yoshizawa et al.

teach that electrons can be given and taken relatively easily, so that occlusion and release of lithium ions seem to be improved (Paragraph 0017).

With respect to claim 9, Barker et al. disclose lithium batteries having positive and negative electrodes and electrolyte (Paragraph 0002). Barker et al. teach that the polymer electrolyte matrix comprises a salt typically organic and a solvent. The solvent relatively non-volative, aprotic, relatively polar solvent (Paragraph 0152).

Regarding claim 10, it has been held that the recitation that an element is "adapted to" perform or is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. The recitation of a new intended use (i.e. a lithium based storage device use as a supercapacitor) for an old product does not make a claim to that old product patentable, see In re *Schreiber,* 44 USPQ2d 1429 (Fed. Cir. 1997).

10. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barker et al. (U.S. Pub. No. 2004/0214084 A1) in view of Yoshizawa et al. (U.S. Pub. No. 2002/0192551 A1).

With respect to claims 3 and 5, Barker et al. disclose synthesis of metal compounds under carbothermal conditions (title), wherein the products of the method find use in lithium ion batteries as cathode active materials. Preferred active materials

include lithium-transition metal phosphates and lithium-transition metal oxides (Paragraph 0010)

With respect to an LiX-M amorphous composite or nano-composite, Barker et al. teach that Phosphate active materials or active materials where other anions may completely or partially replace phosphate may be represented by the general formula: $A_aM_b(XY_4)_cZ_d$, (Paragraph 0024).

(a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, and 0<a<=8;

(b) M comprises one or more metals, comprising at least one metal which is capable of undergoing oxidation to a higher valence state, and 1<=b<=3;

(c) 0<c<=3;

(d) Z is OH, halogen, or mixtures thereof, and 0<=d<=6; and wherein M, X, Y, Z, a, b, c, d, x and y are selected so as to maintain electroneutrality of the compound (Paragraph 0024 – 0030)

(Examiner notes that when A= Li and c=0 the formula of Barker et al. reads on Applicants formula of LiX-M).

Barker et al. also teach that in a preferred embodiment, M comprises two or more transition metals from Groups 4 to 11 of the Periodic Table. In another preferred

embodiment, M comprises M'M", where M' comprises at least one transition metal from Groups 4 to 11 of the Periodic Table; and M" at least one element from Groups 2, 3, 12, 13, or 14 of the Periodic Table. Preferred embodiments include those where c=1, those where c=2, and those where c=3. Preferred embodiments include those where a 1 and c=1, those where a=2 and c=1, and those where a 3 and c=3. Preferred embodiments also include those having a structure similar to the mineral olivine (herein "olivines"), and those having a structure similar to NASICON (NA Super Ionic Conductor) materials (herein "NASICONs") (Paragraph 0031).

Barker et al. teach that transition metals useful herein include those selected from the group consisting of Ti (Titanium), V (Vanadium), Cr (Chromium), Mn (Manganese), Fe (Iron), Co (Cobalt), Ni (Nickel), Cu (Copper), Zr (Zirconium), Nb (Niobium), Mo (Molybdenum), Ru (Ruthenium), Rh (Rhodium), Pd (Palladium), Ag (Silver), Cd (Cadmium), Hf (Hafnium), Ta (Tantalum), W (Tungsten), Re (Rhenium), Os (Osmium), Ir (Iridium), Pt (Platinum), Au (Gold), Hg (Mercury), and mixtures thereof (Paragraph 0039).

With respect to X being fluorine, Barker et al. teach that Z is OH, halogen, or mixtures thereof. In one embodiment, "d" is equal to zero. In another preferred embodiment, d is non-zero and Z is selected from the group consisting of OH (hydroxyl), F (fluorine), Cl (chlorine), Br (bromine) and mixtures thereof. In a preferred embodiment, Z is OH. In another preferred embodiment, Z is F, or mixtures of F with OH, Cl, or Br. Preferably "d" is from about 0.1 to about 6, more preferably from about 0.2 to about 6. Where c=1, d is preferably from about 0.1 to about 3 (Paragraph 0044).

With respect to the transition metal being metal clusters Barker et al. teach that the presence of carbon particles in the starting materials is thought to provide nucleation sites for the production of the product crystals. The reaction product is believed to be comprised of small grains or crystals nucleated onto carbon particles. The individual grains are agglomerated (clusters). This provides many advantages, including the enhanced conductivity of the product (Paragraph 0067).

With respect to conductive additive, Barker et al. teach the use of graphite and carbon black and metal particles (Paragraph 0131-0132).

With respect to binders, Barker et al. teach the use of PVDF (Paragraph 0132). Barker et al. also teach that in another aspect, reaction of a metal compound and a source of carbon is carried out without simultaneous reduction of a metal. In this aspect, the metal compounds are provided in an oxidation state equal to their oxidation state in the desired product. Whether or not reaction proceeds with carbothermal reduction, the carbon particles preferably provide nucleation sites for the crystals of the reaction product. The crystals or grains thus produced are preferably smaller than they would be in the absence of the carbon. The smaller grain size preferably leads to more intimate packing of the crystals forming a high quality active material. Preferably, carbon particles are also dispersed throughout the reaction product, leading to a product with good conductivity between grains. This is believed to contribute to the high quality of the active material made under carbothermal conditions (Paragraph 0020).

Barker et al. disclose lithium batteries having positive and negative electrodes and electrolyte (Paragraph 0002). Barker et al. teach that the polymer electrolyte matrix comprises a salt typically organic and a solvent. The solvent relatively non-volative, aprotic, relatively polar solvent (Paragraph 0152).

Barker et al. do not specifically teach a nano composite. However, Yoshizawa et al. disclose a nonaqueious electrolyte battery wherein, by using the iron compound of which primary particles is substantially a pore-free matter in nano particle region, occlusion and release of lithium in the 4 V region, which were hitherto difficult, are easy, and a stable charging or discharging is possible. When particles are in nano particle region, the number of constituent atoms in particle is extremely small, and band structure is hardly formed, so that the energy level of electrons becomes discrete. As a result, electrons can be given and taken relatively easily, so that occlusion and release of lithium ions seem to be improved (Paragraph 0017). Therefore it would have been obvious to one of ordinary skill in the art to use the nano particle size of Yoshizawa et al. as the size of the electrode active material of Barker et al. because Yoshizawa et al. teach that electrons can be given and taken relatively easily, so that occlusion and release of lithium ions seem to be improved (Paragraph 0017).

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barker et al. Obrovac et al. (U.S. Patent No. 6,680,145 B2) in view of Yoshizawa et al. (U.S. Pub. No. 2002/0192551 A1).

With respect to claim 12, Obrovac et al. disclose lithium ion batteries above. Obrovac et al. teach that the Rietveld refinement to the x-ray diffraction pattern of the composite is shown in FIGS. 2(a) and 2(b). The pattern is in agreement with a refinement that assumed a mixture of Li.sub.2 O and .alpha.-Fe. From the peak widths, the average grain size for the Li.sub.2 O and .alpha.-Fe in the sample was estimated according to the Scherrer equation to be about 11 nm and 14.4 nm, respectively (Col 5 lines 34-40).

Barker et al. do not specifically teach a 1-10 nanometer particle size. However, Yoshizawa et al. disclose a nonaqueious electrolyte battery wherein, by using the iron compound of which primary particles is substantially a pore-free matter in nano particle region, occlusion and release of lithium in the 4 V region, which were hitherto difficult, are easy, and a stable charging or discharging is possible. When particles are in nano particle region, the number of constituent atoms in particle is extremely small, and band structure is hardly formed, so that the energy level of electrons becomes discrete. As a result, electrons can be given and taken relatively easily, so that occlusion and release of lithium ions seem to be improved (Paragraph 0017). Yoshizawa et al. teach an iron compound with particle size of 1-300nm or less (Paragraph 0033). Therefore it would have been obvious to one of ordinary skill in the art to use the nano particle size of Yoshizawa et al. as the size of the electrode active material of Obrovac et al. because Yoshizawa et al. teach that electrons can be given and taken relatively easily, so that occlusion and release of lithium ions seem to be improved (Paragraph 0017).

Response to Arguments

12. Applicant's arguments filed on July 20^{th}, 2010 have been fully considered but they are not persuasive.

Applicant's principal arguments are

(a). Applicant respectfully submits that this finding of fact with respect to Barker et al. represents an improper reading of Barker et al. on the basis that the general formula provided in Barker et al. at paragraph [0024] can never have c = 0 as defined in paragraph [0028] that states that c is less than or equal to 3 and is greater than 0. As such, it is respectfully submitted that as c can never equal 0, Barker et al. fails to afford any of the compositions detailed in pending independent claims 5-8, the only independent claims pending in the application. Yoshizawa et al. is submitted to lack a teacl~ng sLffficient to bolster the above-detailed deficiencies of Barker et al. The findings of fact with respect to Yoshizawa et al. are consistent with Applicant's assertion that Yoshizawa et al. fails to bolster the compositional deficiencies of Barker et al. (Paper No. 20091230, section 5, paragraph spanning pages 7-8). On this basis alone, reconsideration and withdrawal of the outstanding rejection is requested.

In response to Applicant's arguments, please consider the following comments.

(a) Barker et al. teach that XY_4 is selected from the group consisting of $X'O_{4-x}Y'_x$, $X'O_{4-y}Y'_{2y}$, $X''S_4$, and mixtures thereof, where X' is P (phosphorus), As (arsenic), Sb (antimony), Si (silicon), Ge (germanium), S (sulfur), and mixtures thereof; X" is P, As, Sb, Si, Ge and mixtures thereof. In a preferred embodiment, X' and X" are, respectively, selected from the group consisting of P, Si, and mixtures thereof. In a particularly preferred embodiment, X' and X" are P. Y' is halogen, preferably F (fluorine). Preferred groups XY_4 include, without limitation, phosphate, silicate, sulfate, germanate, arsenate, antimonate, monofluoromonophosphate, difluoromonophosphate, and mixtures of the above, as well as the sulfur-containing analogs of the above (Paragraph 0042). (Examiner notes that when X and M are the same transition metal and Y and Z are both Fluorine then the formula of the prior art will read of the formula as claimed by Applicant).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ben Lewis/
Examiner, Art Unit 1795

/Patrick Joseph Ryan/
Supervisory Patent Examiner, Art Unit 1795